REMARKS

I. Claim Rejections – 35 U.S.C. § 112, Second Paragraph

Claim 5 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states that the claim is indefinite because the upper heat treatment temperature is more than point. Claim 5 has now been deleted, thereby rendering this ground of rejection moot.

II. Claim Rejections - 35 U.S.C. 103

Claims 1-17 were rejected under 35 U.S.C. § 103 as being unpatentable over JP 63033563 ("JP '563"), JP 04041676 ("JP '676"), Hansen (fig. 568), JP 57153253 ("JP '253"), U.S. Pat. No. 3,855,612 to Rosvold, or U.S. Pat. No. 4,985,386 to Tsurumi et al. The Examiner states that the cited references disclose the features including the claimed Ni-Pt alloy and step of heating said alloy to at least 500°C. Applicant respectfully traverses this rejection.

The PTO bears the burden of establishing a case of prima facie obviousness. In re Fine, 837 F.2d 1071, 1074 (Fed. Cir. 1988). It is axiomatic that in order to establish a prima facie case of obviousness, it is necessary for the examiner to present evidence, preferably in the form of some teaching, suggestion, incentive or inference in the applied prior art, that one having ordinary skill in the art would have been led to combine the relevant teachings of the applied references in the proposed manner to arrive at the claimed invention. See e.g. Carella v. Starlight Archery, 804 F.2d 135 (Fed. Cir. 1986); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281 (Fed. Cir. 1985). This suggestion cannot stem from the applicant's own disclosure, however. In re Ehrreich, 590 F.2d 902 (CCPA 1979).

Applicant's claims as amended provide that the Ni and Pt alloy is oxidation resistant from 500°C to the melting point of platinum (independent claims 1, 6, 9, 10, 12, 14, 16, 18, and claims depending therefrom) or to 700-800°C by heat treatment from 500-1000°C (new claims 19-21). Support for new claims 19-21 can be found in the specification, p. 3, lines 19-22. Claims 6, 9, 18, 19, and 21 (and claims depending therefrom) also provide that that the alloy comprises 95% Ni and 5% Pt.

In addition, the method claims have been amended to include the partially closed language "consisting essentially of" which precludes the addition of ingredients or processing steps that would destroy the basic and novel characteristics of Applicant's claimed method.

The teachings of the cited references are as follows:

-JP '563: preparation of a Pt-Ni alloy by melting the alloy in a Cu casting mold whereby the temperature of the mold during casting is <u>150°C or less</u>;

-JP '676: preparation of a thin film by coating a metal substrate with an organic solvent to a metal resinate, drying the coated substrate, baking the substrate in air at a temperature of <u>between 300-400°C</u>, then further baking at 500-900°C in a reducing gas;

-Hansen: a Ni-Pt alloy having a temperature-resistivity curve of <u>580 ± 5°C</u>. The alloy contains <u>52.58 wt. % Pt</u>.

-JP '253: preparation of an electrode wire of Pt containing <u>1-12% Ni</u> buried in a metal oxide semiconductor. The electrode wire of <u>98% Pt-2% Ni</u> is inserted in the semiconductor and fired in N at <u>1200°C</u>;

-Rosvold: preparation of a target 17 formed of an alloy of 75-90% nickel with the remainder being platinum. Rosvold discloses a substrate 16 formed essentially of silicon. (Col. 3, lines 35-38). The silicon substrate is formed by heating to a temperature of 350°C to as high as 900°C. (bottom of col. 4 to top of col. 5).

-Tsurumi: preparation of platinum-nickel alloy catalyst by first preparing a solution at 50°C, drying at 65°C, followed by reducing the slurry produced in 10% of a hydrogen/nitrogen flow at 250°C for 30 minutes, then raising the temperature to 900°C. (Col. 6, lines 21-45).

Applicant's claims differ from that of the cited references in several respects. First, independent method claims 6, 9, and 16 all require heat treatment of the Ni/Pt alloy in a nitrogen atmosphere from at least 500°C to the melting point of platinum. This is in contrast to the references of record which do not disclose heat treatment in this claimed temperature range, or which further require preliminary heat treatment at a much lower temperature range (JP '563, JP '676, and Tsurumi). The "consisting essentially of" language of the claims precludes the addition of the preliminary heat treatment steps of these references.

Independent composition claims 1, 10, 12, 14, and 18 provide that the composition be resistant to oxidation from 500°C up to the melting point of Pt. This feature would not be inherent in the compositions of the cited references since they do not teach heat treatment of a Ni/Pt alloy in this temperature range, or also require treatment in a lower temperature range.

Further, the cited references do not teach a Ni/Pt alloy that is oxidation resistant from 700-800°C by heat treatment from 500-1000°C, as required by claims 19-21. As already noted, the cited references teach treatment of an alloy using multiple temperature ranges (i.e. JP '676, Tsurumi), or temperatures outside of Applicant's claimed range (see remaining references). For

example, JP '253 discloses treatment of a Pt/Ni electrode wire at 1200°C, while JP '563 teaches that the temperature of the mold during casting is 150°C or less.

In addition, independent claims 6, 9, 18, 19, and 21 require that the alloy comprise 95% Ni and 5% Pt. In contrast, the cited references do not teach an alloy having these concentrations of Ni and Pt. For instance, Hansen teaches a Ni-Pt alloy containing 52.58% Pt (48.42% Ni). Further, JP '253 teaches an electrode wire containing 98% Pt-2% Ni, thereby containing 93% by weight <u>more</u> platinum and 93% <u>less</u> Ni than the claimed invention. In addition, Rosvold describes an alloy comprising 75-90% nickel and 10-25% platinum. Again, these concentrations are significantly outside of the range of the claimed invention.

For all of these reasons, the references of record do not teach or suggest the claimed invention. Claims 1-21 are therefore not rendered obvious by JP '563, JP '676, Hansen, JP '253, Rosvold, or Tsurumi under 35 U.S.C. § 103(a).

III. <u>Conclusion</u>

For the above-stated reasons, it is believed the application is in a prima facie condition for allowance. Allowance is respectfully requested.

Enclosed is the fee of $312 for the addition of four new independent claims. If this fee is incorrect, please consider this a request to credit or debit Deposit Account No. 26-0084 accordingly.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**<u>Version with markings to show changes made.</u>**"

Respectfully submitted,

Wendy K. Marsh, Reg. No. 39,705
McKEE, VOORHEES & SEASE, P.L.C.
801 Grand Avenue, Suite 3200
Des Moines, Iowa 50309-2721
Phone No. (515) 288-3667
Fax No. (515) 288-1338
CUSTOMER NO: 22885

Attorneys of Record

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Application No. 09/824,321

AMENDMENT — VERSION WITH MARKINGS TO SHOW CHANGES MADE — DO NOT FILE

In the Claims

Claims 1, 5, 6, 9, 10, 12, 14, and 16 have been amended as follows:

1. (Amended)

An alloy comprised of Ni and Pt that is resistant to oxidation from 500°C up to the melting point of Pt, said alloy being subjected to a heat treatment of between 500°C to the melting point of Pt in a nitrogen atmosphere.

Claim 5 has been canceled.

6. (Amended)

A method of suppressing the oxidation characteristics of nickel, [comprising] consisting essentially of,

combining Ni with Pt in a ratio of approximately 95% Ni powder and 5% Pt by weight, and heat treating the Ni/Pt mixture to a temperature of between 500°C and the melting point of Pt in a nitrogen atmosphere.

9. (Amended)

A method of creating an air-fireable and termination element for electronic components which requires metallization, [comprising] consisting essentially of,

making an air-fireable and termination element from a combination of Ni powder with Pt in a ratio of approximately 95% Ni powder and 5% Pt by weight, and heat treating the Ni/Pt mixture to a temperature of between 500°C and the melting point of Pt in a nitrogen atmosphere.

10. (Amended)

An air-fireable and termination element that is resistant to oxidation from 500°C up to the melting point of Pt, said element being comprised of Ni and a Pt alloyed product heat treated to a temperature between 500°C and the melting point of Pt in a nitrogen atmosphere.

12. (Amended)

An air-fireable conductor plate for capacitors that is resistant to oxidation from 500°C up to the melting point of Pt, said plate being comprised of Ni powder and Pt heat treated to a temperature between 500°C and the melting point of Pt in a nitrogen atmosphere.

14. (Amended)

A thick film screen printable fireable conductor material that is resistant to oxidation from 500°C up to the melting point of Pt, said material being comprised of Ni powder and Pt heat treated to a temperature between 500°C and the melting point of Pt in a nitrogen atmosphere.

16. (Amended)

The method of making an alloy of Ni and Pt, [comprising] consisting essentially of, combining Ni powder with Pt,

subjecting the same to a temperature of 500°C to the melting point of Pt, to create an alloy of Ni and Pt in a nitrogen atmosphere.

New claims 18-21 were added:

18. (New)

An alloy comprised of 95% Ni and 5% Pt that is resistant to oxidation from 500°C up to the melting point of Pt, said material being subjected to a heat treatment of between 500°C to the melting point of Pt in a nitrogen atmosphere.

19. (New)

An alloy comprised of 95% Ni and 5% Pt that is resistant to oxidation from 500°C to between 700-800°C, said material being subjected to a heat treatment of between 500°C to 1000°C in a nitrogen atmosphere.

20. (New)

A method of suppressing the oxidation characteristics of nickel, consisting essentially of, combining Ni with Pt and heat treating the Ni/Pt mixture to a temperature of between 500°C and 1000°C in a nitrogen atmosphere.

21. (New)

A method of suppressing the oxidation characteristics of nickel, consisting essentially of,

combining 95% Ni with 5% Pt and heat treating the Ni/Pt mixture to a temperature of between 500°C and 1000°C in a nitrogen atmosphere.